

Application No. 09/767,465
Amendment "C" dated July 27, 2005
Reply in Office Action mailed April 27, 2005

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a data center capable of communicating with a remote enterprise network, a method for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network, the method comprising the acts of:

in response to receiving a data request from the remote enterprise network, establishing the [[a]] data tunnel with the [[a]] remote enterprise network by transmitting reply data to the remote enterprise network, the data tunnel operating as a virtual private network through a firewall of the remote enterprise network without requiring a virtual private network node to be placed at the firewall;

continuing to transmit ~~transmitting ongoing~~ the reply data to the remote enterprise network in an ongoing manner such that the data tunnel channel is kept open;

receiving an access request from a user for network data from the remote enterprise network;

transmitting the access request to the remote enterprise network using the existing data tunnel that has been established and exists prior to the data center having received the access request;

receiving the network data from the remote enterprise network in response to the access request; and

transmitting the network data to the user.

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2. (Previously Presented) A method as defined in claim 1, wherein the access request is received by a designated server, and wherein the designated server is one of multiple servers of the data center.

3. (Previously Presented) A method as defined in claim 2, wherein a database of the remote enterprise network is notified which of the multiple servers is the designated server, the designated server notifying the database when the data tunnel is established.

4. (Original) A method as defined in claim 3, wherein the access request is received by a designated telephony node of the data center, and wherein the user generates the access request using a telephone system.

5. (Original) A method as defined in claim 3, wherein the access request is received by one of multiple servers of the data center over the Internet, and wherein the access request is generated by the user using a device connected to the Internet.

6. (Original) A method as defined in claim 4, wherein the designated telephony node of the data center transmits the access request to the designated server.

7. (Original) A method as defined in claim 6, wherein the designated telephony node determines which of the multiple servers is the designated server by communicating with at least one of the multiple servers.

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8. (Original) A method as defined in claim 6, wherein the designated telephony node determines which of the multiple servers is the designated server by communicating with the database.

9. (Original) A method as defined in claim 1, wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user.

10. (Original) A method as defined in claim 9, wherein authenticating the identity of the user comprises the act of receiving a valid personal identification number.

11. (Original) A method as defined in claim 4, wherein the act of transmitting the network data to the user includes the acts of:

transmitting the network data from the designated server to the designated telephony node; and

transmitting the network data from the designated telephony node to the telephone system used by the user.

12. (Original) A method as defined in claim 5, wherein the act of transmitting the network data to the user includes the act of transmitting the network data from the designated server to the device that is connected to the Internet.

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13. (Currently Amended) In an enterprise network capable of communicating with a remote data center network, a method for enabling a user to access network data of the enterprise network through a data tunnel between the remote data center and the enterprise network that operates as a virtual private network, the method comprising the acts of

transmitting a data request to the remote data center;

receiving reply data that has been transmitted by the remote data center in response to the data request and that establishes the to-establish a data tunnel with the remote data center, the data tunnel operating as a virtual private network through a firewall of the enterprise network without requiring a virtual private network node to be placed at the firewall;

receiving the ongoing reply data from the remote data center in an ongoing ~~manner response to the data request~~, such that the data tunnel is kept open between the remote data center and the enterprise network, ~~the data tunnel operating as a virtual private network;~~

receiving, from the remote data center, an access request to access network data of the enterprise network, the access request having been received by the remote data center from the user and thereafter transmitted by the remote data center to the enterprise network through the pre-opened data tunnel that has been established and exists prior to the remote data center having received the access request; and

in response to the access request, transmitting the network data to the remote data center such that the user is enabled to access the network data.

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14. (Original) A method as defined in claim 13, wherein the data request includes a uniform resource identifier.

15. (Currently Amended) A method as defined in claim 13, wherein the data request is transmitted through [[a]] the firewall.

16. (Original) A method as defined in claim 15, wherein the data request is transmitted through a proxy server.

17. (Original) A method as defined in claim 13, wherein the reply data is received through port 443.

18. (Original) A method as defined in claim 17, wherein the reply data is received using Secure Sockets Layer protocol.

19. (Original) A method as defined in claim 13, wherein the reply data is received through port 80.

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20. (Original) A method as defined in claim 13, wherein the act of transmitting the network data to the remote data center includes the acts of:

encrypting the network data to comply with Secure Sockets Layer protocol,

transmitting the network data to the remote data center through a second data tunnel, such that the transmission of the network data operates as a temporary virtual private network; and

closing the second data tunnel.

21. (Original) A method as defined in claim 13, wherein upon receiving the access request, the method further comprises the act of:

performing an act upon the network data.

22. (Original) A method as defined in claim 21, wherein performing an act upon the network data includes retrieving email message data.

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23. (Currently Amended) In a data center capable of communicating with a remote enterprise network, a method for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network, the method comprising the acts of:

receiving, from the remote enterprise network, a uniform resource identifier associated with a resource of a server of the data center ~~to establish a data tunnel with the resource of the server;~~

in response to receiving the uniform resource identifier, invoking the resource to ~~establish the data tunnel with the remote enterprise network by transmitting generate~~ ongoing reply data, and ~~continuing to transmit transmitting the ongoing the~~ reply data to the remote enterprise network in an ongoing manner, such that the data tunnel is kept open between the data center and the remote enterprise network, the data tunnel operating as a virtual private network through a firewall of the remote enterprise network without requiring a virtual private network node to be placed at the firewall;

receiving an access request to access network data of the remote enterprise network from the user;

inserting the access request into the ongoing reply data ~~on the pre-opened data~~ channel and transmitting the access request to the remote enterprise network using the data tunnel that has been established and exists prior to the data center having received the access request;

receiving the network data from the remote enterprise network in response to the access request; and

transmitting the network data to the user.

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24. (Original) A method as defined in claim 23, wherein the act of receiving the network data from the remote enterprise network comprises the act of receiving through a second data tunnel the network data from the remote enterprise network, the second data tunnel operating as a temporary virtual private network is closed after the network data is received by the data center.

25. (Original) A method as defined in claim 23, wherein the act of transmitting the access request to the remote enterprise network comprises the act of transmitting the access request using Secure Sockets Layer protocol.

26. (Original) A method as defined in claim 23, wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user.

27. (Original) A method as defined in claim 26, wherein authenticating the identity of the user comprises the act of receiving a valid personal identification number.

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28. (Currently Amended) A computer program product for implementing in a data center a method for enabling a user to access network data of a remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network, the computer program product comprising:

a computer-readable medium carrying computer-executable instructions for implementing the method, the computer-executable instructions comprising:

program code means for establishing [[a]] the data tunnel with [[a]] the remote enterprise network by transmitting reply data to the remote enterprise network in response to receiving a data request from the remote enterprise network, the data tunnel operating as a virtual private network through a firewall of the remote enterprise network without requiring a virtual private network node to be placed at the firewall;

program code means for continuing to transmit transmitting-ongoing the reply data to the remote enterprise network in an ongoing manner such that the data tunnel channel is kept open;

program code means for receiving an access request from a user for network data from the remote enterprise network;

program code means for transmitting the access request to the remote enterprise network using the existing data tunnel that has been established and exists prior to the data center having received the access request;

program code means for receiving the network data from the remote enterprise network in response to the access request; and

program code means for transmitting the network data to the user.

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29. (Original) A computer program product as defined in claim 28, wherein the computer-executable instructions further comprise program code means for authenticating the identity of the user.

30. (Original) A computer program product as defined in claim 28, wherein the computer-executable instructions further comprise program code means for enabling telephony nodes of the data center to receive the access request and to transmit the access request to a designated server, wherein the designated server is transmitting the ongoing reply data to the remote enterprise network.

31. (Original) A computer program product as defined in claim 30, wherein the designated server is one of multiple servers of the data center, and wherein the user generates the access request using a telephone system.

32. (Original) A computer program product as defined in claim 28, wherein the computer-executable instructions further comprise program code means for caching a copy of network data in a database of the data center.

33. (Original) A computer program product as defined in claim 32, wherein the computer-executable instructions further comprise program code means for transmitting the cached copy of the network data to the user in response to receiving the access request from the user.

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34. (Currently Amended) In an enterprise network capable of communicating with a remote data center, a method for enabling a user to manipulate network data of the enterprise network through a data tunnel between the remote data center and the enterprise network that operates as a virtual private network, the method comprising the acts of

transmitting a data request to the remote data center;

receiving reply data that has been transmitted by the remote data center in response to the data request and that establishes the ~~to establish~~ a data tunnel with the remote data center, the data tunnel operating as a virtual private network through a firewall of the enterprise network without requiring a virtual private network node to be placed at the firewall;

receiving the ongoing ~~reply data from the remote data center in an ongoing manner response to the data request,~~ such that the data tunnel is kept open between the ~~remote data center and the enterprise network, the data tunnel operating as a virtual private network;~~

receiving, from the remote data center, a user request for an act to be performed on network data of the enterprise network, the user request having been received by the remote data center from the user and thereafter transmitted by the remote data center to the enterprise network through the ~~pre-opened data tunnel~~ that has been established and exists prior to the data center having received the user request; and

upon receiving the user request, performing the act on network data of the enterprise network.

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35. (Previously Presented) A method as defined in claim 34, wherein performing an act upon the network data includes deleting email.

36. (Previously Presented) A method as defined in claim 35, wherein performing an act upon the network data includes faxing the network data to the user.

37. (Previously Presented) A method as defined in claim 35, wherein performing an act upon the network data includes retrieving a web page.

38. (Previously Presented) A method as defined in claim 35, wherein performing an act upon the network data includes retrieving email messages.

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39. (Currently Amended) In a data center capable of communicating with a remote enterprise network, a method for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network, the method comprising:

establishing the [[a]] data tunnel with the [[a]] remote enterprise network by transmitting reply data to the remote enterprise network in response to receiving a data request from the remote enterprise network;

continuing to transmit transmitting-ongoing the reply data to the remote enterprise network in an ongoing manner to keep the data tunnel open;

receiving network data from the remote enterprise network through the data tunnel that is established between the data center and the remote enterprise network, the data tunnel operating as a virtual private network through a firewall of the enterprise network without requiring a virtual private network node to be placed at the firewall;

caching a copy of the network data in a database of the data center;

receiving an access request to access network data of the remote enterprise network from the user;

retrieving the network data from the database in response to the access request;
and

transmitting the network data to the user.

40. (Original) A method as defined in claim 39, wherein the network data of the enterprise network is disconnected from the enterprise network after the network data is received by the data center.

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41. (Original) A method as defined in claim 39, wherein the network data of the enterprise network is disconnected from the user after the network data is received by the data center.

42. (Original) A method as defined in claim 39, wherein the user determines what network data is transmitted to the data center, and wherein the user determines what network data is cached in the database.

43. (Original) A method as defined in claim 39, wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user.

44. (Original) A method as defined in claim 39, wherein the access request comprises a command to update network data.

45. (Previously Presented) A method as defined in claim 44, further comprising the acts of updating the cached copy of network data, and transmitting update information to the enterprise network.

Claims 46-48. (Canceled)